GORTDRUM MINES LIMITED

THIRD

Annual Report

FOR THE YEAR ENDED DECEMBER 31

1966

Gortdrum mine site showing concentrator building complex under construction with stockpiled ore in foreground.

THIRD ANNUAL REPORT

GORTDRUM MINES LIMITED

For the year ended December 31, 1966

GORTDRUM MINES LIMITED

OFFICERS	Patrick J. Hughes	President
	Dr. Duncan R. Derry	Vice-President
	Robert E. Fasken	Vice-President
	G. Warren Armstrong	Secretary-Treasurer
	William Fredenburg	General Manager
BOARD OF DIRECTORS	G. Warren Armstrong	Toronto, Canada
	Dr. Duncan R. Derry	Toronto, Canada
	Robert E. Fasken	Toronto, Canada
	Matthew Gilroy	Dublin, Ireland
	James A. Harquail	Toronto, Canada
	Patrick J. Hughes	Dublin, Ireland
	Dr. W. F. James	Toronto, Canada
	J. K. McCausland	Toronto, Canada
	George T. Smith	Toronto, Canada
AUDITORS	Gunn, Roberts and Co.	Toronto, Canada
BANKERS	The Toronto-Dominion Bank	Toronto, Canada
TRANSFER AGENTS	Crown Trust Company	Toronto, Canada
EXECUTIVE AND HEAD OFFICE	Suite 1905 7 King Street East	Toronto, Canada
SHARES LISTED	Toronto Stock Exchange	Toronto, Canada

DIRECTORS' REPORT

Patrick J. Hughes — President.

The Directors present the Third Annual Report of the company and its wholly owned subsidiary, Gortdrum Mines (Ireland) Limited, together with the audited consolidated financial statements for the year ended December 31, 1966.

The principal highlights of the year were the completion of financing arrangements to bring the copper-silver mine near Tipperary, Ireland, into production, which is scheduled for mid-1967; the signing of a long term contract for the sale of concentrates; and the commencement of construction of the concentrator complex and preparation of the mine for open pit operation.

Financing Arrangements

At the Annual and General Meeting held June 27, 1966, shareholders approved the agreement between the company and Northgate Exploration Limited whereby the latter and its subsidiary, Irish Base Metals Limited, together with your company, would guarantee the payment of principal and interest on the First Mortgage Bonds to be issued and sold by Gortdrum Mines (Ireland) Limited.

This agreement was in turn approved by the shareholders of Northgate Exploration Limited at a subsequent Annual and General Meeting of the latter company. Particulars of this agreement were provided in the Information Circular that accompanied the Notice of the 1966 Annual Meeting, the pertinent details of which are as follows:

Production Financing

Production financing involved the sale of up to $6,500,000 (U.S.) 8% First Mortgage Bonds of Gortdrum Mines (Ireland) Limited, to be purchased as and when funds are required, by Midland and International Banks Limited, of London, England, with interest to accrue on

the funds actually drawn down only from the date of issue of the Bonds. The company has agreed to pay a standby fee at the rate of 1% per annum on the Bonds which remain to be purchased from time to time until the construction program is completed.

The appended financial statements of the company reflect the principal amount and interest charges on the Bonds issued as at December 31, 1966.

General Plant Description

The concentrator complex now under construction at the mine site is designed to treat 1,500 tons of ore daily or at the rate of 525,000 tons annually, to produce an average of 16,000 tons of concentrate per year containing 35% copper and approximately 20 ounces of silver per ton.

Mining will be by open pit method and will be carried out under contract, with mine planning under the supervision of the company's technical staff. The ultimate pit size will be a length of 2,100 feet, a width varying from 450 feet to 650 feet, and to a maximum depth of approximately 430 feet. At the start up of mining operations, the indicated ore reserves are estimated at 4,191,000 tons containing an average of 1.2% copper and 0.75 ounce silver per ton.

Concentrate will be trucked to a storage and shiploading facility at the ocean port of Limerick, about 22 miles from the mine site, and then via ship to the smelter in Hamburg.

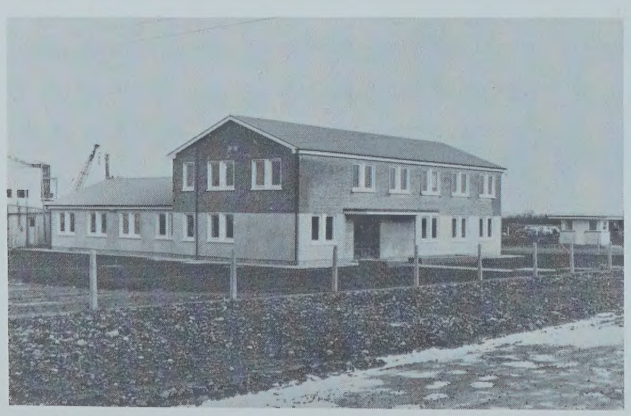
Marketing

A long term contract has been signed with Norddeutsche Affinerie of Hamburg, West Germany, covering the purchase of all copper concentrates produced for a term of 10 years, or the life of the mine, whichever is the shorter. The prices to be paid for the concentrate which will contain a payable content of silver, will be based on London Metal Exchange quotations for copper and the prevailing London price for silver. Smelter settlements will be in U.S. dollars.

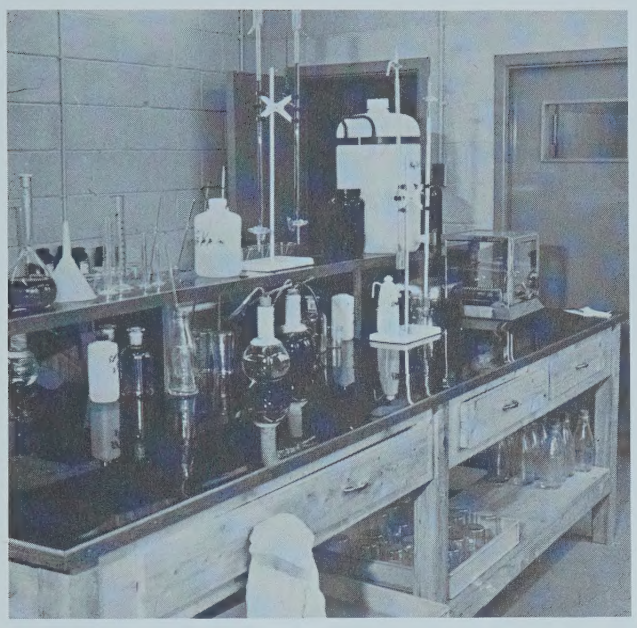
As noted, the company's contract for the sale of its copper concentrate with Norddeutsche Affinerie, provides for smelter settlements based on the London Metal Exchange quotations for copper. In this connection it is pertinent to note that London Metal Exchange copper prices have advanced very appreciably in sensitive response to world metal shortages, reaching an unprecedented peak last spring at £787 per long ton, or the equivalent of $0.979 (U.S.) per lb. The average L.M.E. price for 1966 was £434.71 per long ton, or 54.3¢ (U.S.) per lb., compared with £290.14 in 1965 (36.2¢ U.S. per lb.). The average price for December, 1966, was £432.1 per long ton, or 54.0¢ (U.S.) per lb.

The consensus of opinion is that copper prices are unlikely to drop below 35¢ (U.S.) because of

Mine office and administration building, assay laboratory at rear.



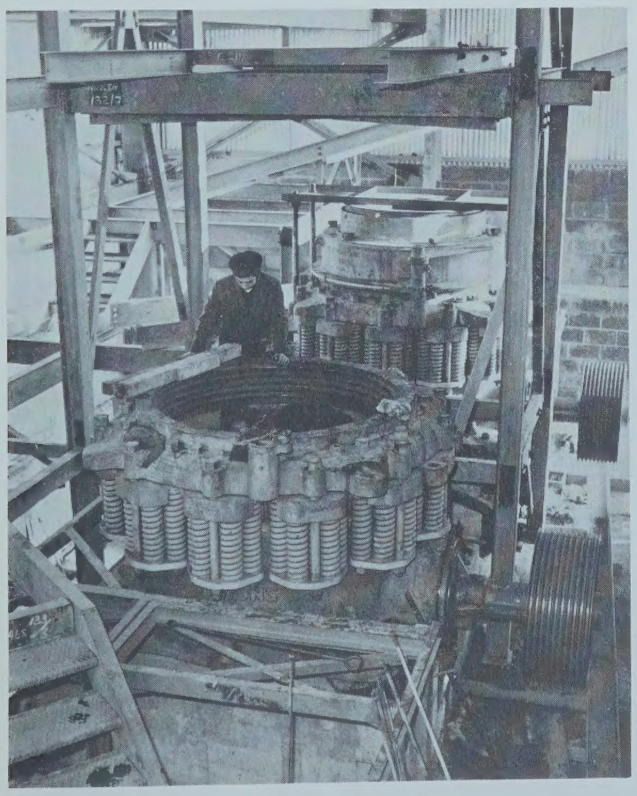
1,500 ton concentrator complex, mill building at left, crusher plant at right.



Assay laboratory.

recent wage contracts which have raised costs to the extent that most producers now require this price for economic operation.

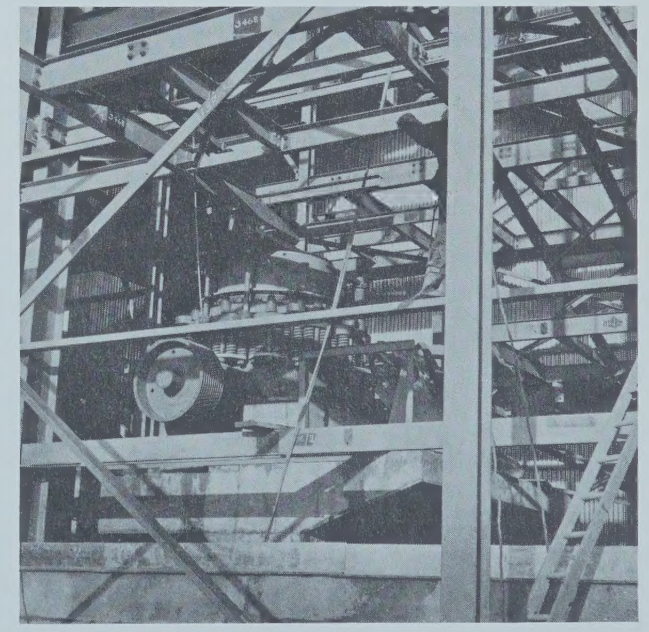
Installation of secondary and tertiary crusher units.



Under the terms of an agreement with The British Metal Corporation Limited, the company's sales agent, it has agreed to lend Gortdrum from time to time, any amount up to a maximum of £1,000,000, by which the aggregate payments received by Gortdrum on the sale of all concentrates are less than the payments which would have been received on the basis of a fixed copper price of 35¢ (U.S.) per lb.

In consideration of this undertaking, which assures Gortdrum of a smelter price basis of at least 35¢ (U.S.) per lb. of copper during the first five years of production, the company has agreed to pay British Metals 5% of the amount by which the payment received on each shipment of concentrates exceeds the payment which would have been received on the basis of the fixed price of 35¢ (U.S.)

Mechanical installation in crusher plant.



per lb. The obligation of British Metals to make such loans, and of Gortdrum to make such payments, is to continue for a period of five years from the date of the first shipment of concentrates or until all Bonds of Gortdrum Mines (Ireland) Limited have been retired, whichever is the earlier.

Under these arrangements, Gortdrum Mines (Ireland) Limited will be assured of receiving during

the period referred to above on the sale of its concentrates and through loans from British Metals, a total sum at least equal to that which would be received if the L.M.E. price for copper were 35¢ (U.S.) per lb. during the period.

At the present time, it does not seem likely that this guarantee will be a factor owing to the outlook for copper prices. World demand for the metal continues at a high level. An important influence is the mounting requirements for copper for military uses as a result of the Vietnam war. Against this background is the uncertainty over world copper production and supplies due to political and labor factors, particularly in Chile, Peru, Congo and Zambia which are prime sources of new mine production. Availability more than productive capacity, has been the key factor in copper markets during the past few years.

The influence of the current L.M.E. price for copper around 55¢ (U.S.) per lb., is demonstrated in the table of estimated cash flow that appears in this Annual Report.

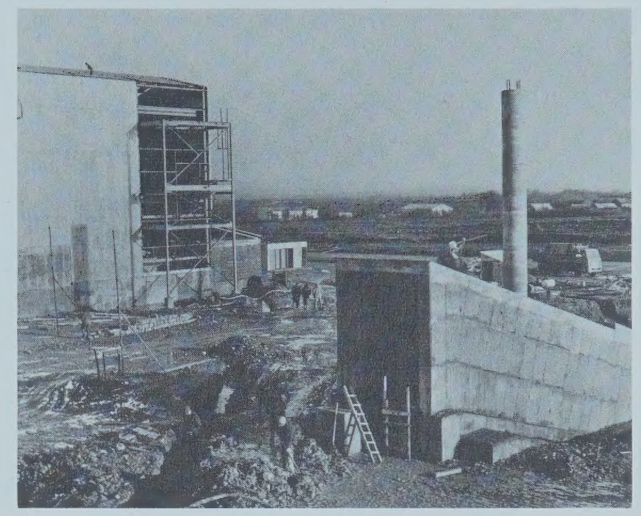
Concrete foundation for ball mill in foreground, background shows crew setting first flotation cell.

Project Cost Estimate

The estimated cost for the construction of the concentrator complex, related service buildings and

Percussion drills in the mine open pit area, top of diesel power shovel rear centre.

Mill building, concentrate thickener at right.
This view is looking toward the east.



Lower right is reclaim tunnel at fine ore stockpile,
crushing plant is at the left.

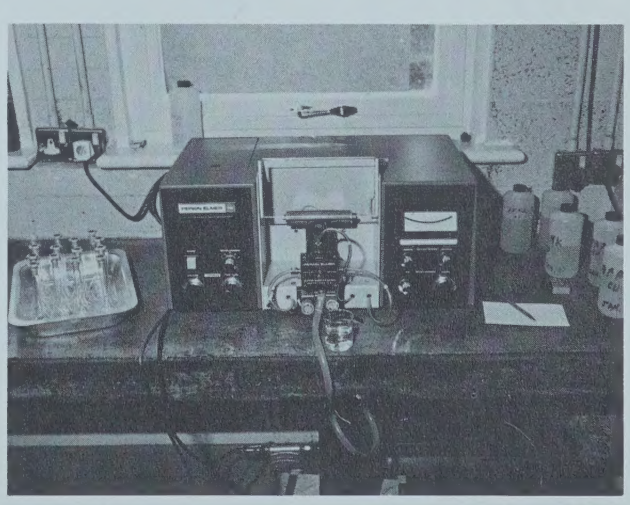
facilities, together with the preparation of the mine for open pit operation, exclusive of allowances for initial inventory and working capital, is $5.2 million (Canadian). As at December 31, 1966, the total of expenditures and commitments was equal to approximately 46% of the project cost estimate. Generally, the costs to date are consistent with the estimate and present indications are that the construction will be completed within an approximate range of the original budget.

All mechanical and electrical equipment necessary for the project have now been ordered and at December 31, 1966, deliveries in terms of dollar value, were approximately 25% complete, and commitments for the remaining outstanding items are within the scheduled dates and no delays in mechanical and electrical installation are currently anticipated. Construction progress is essentially on schedule. The mine office and administration building is now complete and in full use. Most of the equipment and machinery for the assay laboratory has been installed and is now operative. All company assaying is being done by the laboratory.

Mine development is progressing satisfactorily and to date approximately 50,000 tons of ore have been removed to the stockpile.

The Harbour Commission of Limerick has confirmed that a suitable site will be made available on which the storage and shiploading facility will be constructed. The construction of this phase of the project is scheduled to commence during the early spring.

At the end of December, the company and nine contractors employed 141 persons on the project site, including supervisory personnel.



The atomic absorption spectophotometer
in the assay laboratory building.

The pictures contained in this Annual Report were taken during the month of January, and show the mine, concentrator complex and related service

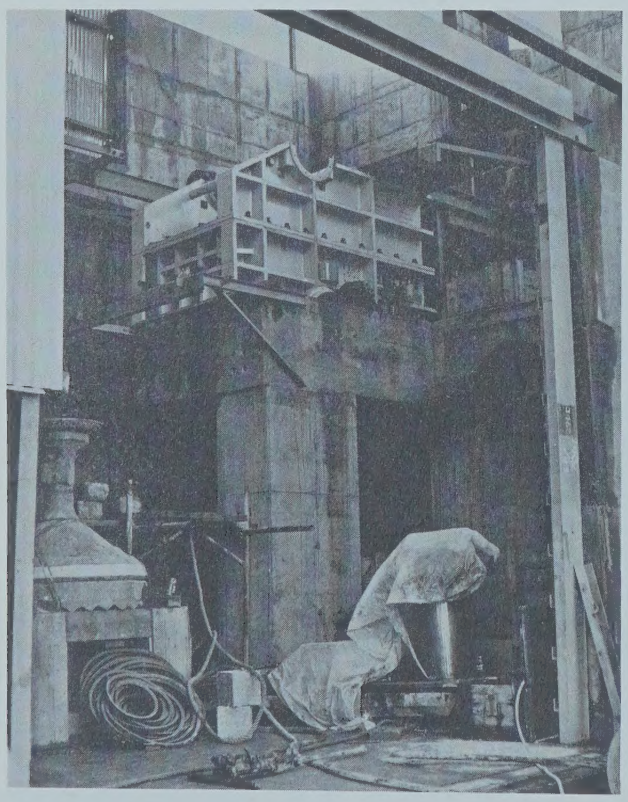
buildings at their respective varying stages of construction. Mechanical and electrical installation in the crusher and concentrator buildings is now in progress.

Estimate of Cash Flow

Messrs. James, Buffam & Cooper, consulting geologists, have made estimates of the cash flow that will be realized by Gortdrum Mines (Ireland) Limited, for the period from July 1, 1967, when the mine is assumed to commence production, until August 31, 1975. The estimates are based on the terms of the sales contract with Norddeutsche Affinerie, and are calculated at varying prices for copper, and a constant price for silver of $1.39 (Canadian) per ounce.

In the preparation of these estimates, they assume that the funded debt at the date of commencement of production will be $6,000,000 (Canadian), that 571,300 tons of ore will be treated during the first 14 months of operation (from July 1, 1967, to August 31, 1968), and thereafter at the rate of 525,000 tons annually; and that the average grade of ore treated during the initial 14 month period will be 0.92% copper, increasing to 1.63% copper in the period ending August 31, 1974, with an average grade over the total period of 1.20% copper.

Mechanical installation of primary jaw crusher in crushing plant.



The following estimates indicate that, after the payment of all operating and other expenses, including interest payments, the following amounts will be available at the dates indicated for the retirement of outstanding indebtedness of Gortdrum Mines (Ireland) Limited:

Period Ending August 31	Funds available for debt retirement on the basis of $1.39 (Canadian) per ounce for silver, and the respective prices per pound for copper.		
	35¢ (U.S.)	45¢ (U.S.)	55¢ (U.S.)
1968	$ 697,700	$ 1,543,000	$ 2,362,900
1969	856,600	1,760,300	2,635,000
1970	1,253,000	2,313,200	3,332,900
1971	1,555,900	2,829,500	3,717,600
1972	1,566,400	3,116,600	3,216,100
1973	2,124,900	3,016,100	3,880,100
1974	2,693,600	3,577,100	4,538,500
1975	1,063,100	1,371,500	1,838,500
Totals	$11,811,200	$19,527,300	$25,521,600

Under the provisions of the tax laws of the Republic of Ireland, the Gortdrum Mine will qualify for exemption of corporate and income taxes for the first four years of regular operation, and will be subject to only half the prevailing rate (currently approximately 50%) for the preceding four year period.

General Exploration

Exploration was continued during the year on the various prospecting licence areas in Ireland held directly by your company as well as those jointly held with associated companies. At the year end, prospecting licences either directly or jointly held by the company covered a total of approximately 170 square miles. No additional licences were applied for this year and one prospecting licence was allowed to lapse. All work requirements necessary to main-

GORTDRUM MINES (IRELAND) LIMITED

Scenes at the mine site near Tipperary, Ireland, showing construction of $5.2 million concentrator complex scheduled to commence production mid-1967

3.5 yard diesel power shovel and 35 ton capacity truck in the open pit

Concentrator complex — mill building upper centre with crushing plant to the right

Mill building left centre, crushing plant to the right

Looking south across the mine open pit, plant buildings at top

tain the remaining licences were fulfilled during the year.

Work carried out in 1966 included diamond drilling on three licence areas, plus mapping and sampling on three other areas.

In the Curlews Area where the company holds eight prospecting licences in which Irish Base Metals is participating to the extent of 25%, two drill holes totalling 1,474 feet were drilled on Prospecting Licence No. 561 to determine the existence and throw of the Curlew Fault separating the mid to upper Carboniferous limestones from Devonian sandstones. This demonstrated that faulting in the drilled area, if present at all, is minor with relative vertical displacement of only 45 feet, however, it is expected to increase appreciably to the east. The Curlew Fault is believed to occupy about 14 miles of the 50 mile length of the Curlew Mountain.

Further drilling was deferred until a reconnaissance Induced Polarization survey could be carried out along the 14 mile fault length to locate suitable geophysical targets. The survey commenced in late November and preliminary results indicate possibly anomalous results associated with some geochemical anomalies. This survey is expected to be completed in February of 1967 and the cumulative work credits will be adequate to renew the eight licences for a further year. While no further drilling is planned during 1967, detailed soil sampling and prospecting will be undertaken later in the year.

In the Ferbane Area where two licences are held covering a limestone-sandstone contact about 25 miles northeast of the Tynagh Mine, a total of eight holes totalling 3,227 feet were completed during the year. The best mineralization was encountered in hole D-2 in which a 4.0 feet section assayed 6.38% zinc and 4.45% lead. The additional soil sampling carried out located scattered anomalous values which warrant further investigation.

Preliminary exploration consisting of soil sampling and mapping was carried out on licences in Ballywire, Creggs and Ballycumber districts and further work is planned during 1967.

The company also participated with Anglo United Development, Tara Exploration, and Irish Base Metals Limited in an exploration program on prospecting licence No. 415 in Rathdrum.

On the prospecting licences near Loughrea, diamond drilling is now in progress to test a fair size geochemical anomaly indicated in previous sampling, and it is also proposed to drill a contact zone where lead-zinc mineralization was intersected in previous drilling by former operators. In connection with the prospecting licences, held in the

Looking northwest — dyke for tailings pond left background.

View of crushing plant and transfer tower looking toward the southwest.

Mechanical installation of secondary and tertiary crushers.

vicinity of the Gortdrum Mine, the geochemical sampling was extended during the year and when completed will cover an area of approximately 57 square miles surrounding the Gortdrum Mines' mining lease.

Avoca Mines Limited was incorporated in September, 1966, for the purpose of exploring the copper-pyrite mine formerly held by St. Patrick's Copper Mines Limited. Your company has subscribed for 19% of the initial issued shares of Avoca Mines Limited, and has the right to maintain this percentage interest by further pro rata subscriptions.

Sub-station of Electricity Supply Board.

Avoca Mines Limited has entered into option agreements, exercisable within a period of 30 months, to take up a lease of seven square miles covering the mining property, and to purchase the existing 4,000 ton per day capacity flotation mill. Avoca Mines Limited has rights to secure prospecting licences to complete a holding approximately 13 miles along strike and three miles wide, centered on the known Avoca pyritic copper deposits.

Initial phases of studies of resuming production were carried out during the year and a considerable program of check drilling of previously indicated reserves was accomplished.

Summary

The Directors acknowledge the effective services provided during the year by the General Manager, Mr. William Fredenburg, the technical staff and other employees of the company, as well as the various contractors working on the construction project at Tipperary, Ireland. The company also wishes to acknowledge the co-operation and assistance provided by officials of the Government of Ireland, local municipal governments and utility boards, and others who have contributed immeasurably to the undertaking at Tipperary.

On behalf of the Board,

Pat. J. Hughes.

Patrick J. Hughes, President.

February 1, 1967.

CONSOLIDATED BALANCE SHEET DECEMBER 31, 1966

(With comparative figures at December 31, 1965)

ASSETS

Current Assets	
Cash	
Short term securities, at cost plus accrued interest (approximate market value)	
Accounts receivable	
Prepaid expenses	
Funds Held by Trustee (note 3)	
Cash and term deposits	
Shares in Other Companies	
Shares in Northgate Exploration Limited at cost (quoted market value, 1966 $338,850; 1965 $628,755)	
Shares in other mining companies at cost	
Fixed Assets	
Land in Ireland at cost	
Construction in progress, buildings, machinery and equipment at cost (note 3)	
Less accumulated depreciation	
Other Assets and Deferred Charges	
Exploration, development and administrative expenditures deferred (note 3)	
Financing expenses deferred (note 2)	
Organization expenses	

LIABILITIES

Current Liabilities	
Accounts payable and accrued liabilities	
Bonds Payable	
8% First mortgage bonds due December 1, 1972 issued by the subsidiary company, Gortdrum Mines (Ireland) Limited, U.S. $2,000,000 (notes 2 and 3)	
Shareholders' Equity	
Capital stock (notes 2 and 4)	
Authorized — 5,000,000 shares of $1 each	
Issued — 3,836,222 shares (1965 — 3,578,222 shares)	
Deduct discount less premium on shares	

GORTDRUM MINES LIMITED

(Incorporated under the laws of Ontario)

AND ITS WHOLLY OWNED SUBSIDIARY COMPANY
GORTDRUM MINES (IRELAND) LIMITED

1966	1965
$ 146,309	$ 243,817
101,200	559,675
12,862	7,023
5,373	6,873
265,744	817,388
323,796	
591,925	591,925
62,100	
654,025	591,925
515,223	418,854
1,808,828	121,694
2,324,051	540,548
1,551	1,905
2,322,500	538,643
1,445,372	730,561
577,042	
8,170	8,170
2,030,584	738,731
$5,596,649	$2,686,687
$ 700,362	$ 185,658
2,142,858	
3,836,222	3,578,222
1,082,793	1,077,193
2,753,429	2,501,029
$5,596,649	$2,686,687

AUDITORS' REPORT

To the Shareholders of
GORTDRUM MINES LIMITED

We have examined the consolidated balance sheet of Gortdrum Mines Limited and its subsidiary company, Gortdrum Mines (Ireland) Limited, as at December 31, 1966 and the consolidated statements of exploration, development and administrative expenditures deferred and source and application of funds for the year then ended. Our examination of the financial statements of Gortdrum Mines Limited (the parent company) included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances. With respect to the subsidiary company, Gortdrum Mines (Ireland) Limited, of which we are not the auditors, we have carried out such enquiries and examinations as we considered necessary in order to accept for purposes of consolidation the report of its auditors.

In our opinion these consolidated financial statements present fairly the financial position of the companies as at December 31, 1966 and the results of their operations and the source and application of their funds for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

GUNN, ROBERTS and CO.,

Toronto, Canada, *Chartered Accountants.*
February 1, 1967.

Approved on behalf of the Board:

R. E. FASKEN, Director.

G. T. SMITH, Director.

CONSOLIDATED STATEMENT OF EXPLORATION, DEVELOPMENT AND ADMINISTRATIVE EXPENDITURES DEFERRED

Year ended December 31, 1966

	Deferred at January 1, 1966	Expenditures in 1966	Deferred at December 31, 1966
Drilling	$ 407,751	$ 119,147	$ 526,898
Assaying and laboratory services	85,692	9,765	95,457
Removal of overburden and pit development		186,672	186,672
Salaries, wages and other exploration and development costs	163,711	163,102	326,813
Mine office expenses and general expenses at the property	21,075	48,756	69,831
Administrative and general expense	114,308	104,825	219,133
Interest on bonds and standby fee		105,903	105,903
	792,537	738,170	1,530,707
Deduct interest earned	61,976	23,359	85,335
Expenditures deferred (net)	$ 730,561	$ 714,811	$1,445,372

CONSOLIDATED STATEMENT OF SOURCE AND APPLICATION OF FUNDS

Year ended December 31, 1966

(With comparative figures for the year ended December 31, 1965)

	1966	1965
Source of Funds:		
Issue of U.S. $2,000,000 8% first mortgage bonds (note 2)	$2,142,858	
Issue of shares (note 4)	2,400	$1,202,402
	$2,145,258	$1,202,402
Application of Funds:		
Purchase of land	96,369	418,854
Construction and acquisition of buildings, machinery and equipment	1,687,851	118,371
Purchase of shares in other mining companies	62,100	591,925
Exploration, development and administrative expenditures, less depreciation	714,448	582,206
Financing expenses	309,042	
	$2,869,810	$1,711,356
Decrease in funds held *	$ 724,552	$ 508,954

* Funds held consist of current assets and funds held by trustees, less current liabilities.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Year Ended December 31, 1966

1. Currency Conversion

Current assets, current liabilities and bonds payable of the Irish subsidiary company are converted to Canadian dollars at the rate of exchange of $3 to £1 (Sterling) which approximates both the average rate for 1966 and the rate at December 31, 1966. Other assets and deferred charges are converted at rates prevailing when funds for the expenditures were provided.

2. Financing Arrangements

In order to bring into production the Tipperary mining property of the Irish subsidiary company, financing arrangements were made whereby:

(a) the subsidiary company, Gortdrum Mines (Ireland) Limited, arranged to sell at face value up to U.S. $6,500,000 8% first mortgage bonds (at December 31, 1966, U.S. $2,000,000 of the bonds had been issued);

(b) the parent company, Gortdrum Mines Limited, has agreed to lend to the subsidiary company, to the extent required to complete the development program, a further sum not exceeding the lesser of $500,000 or the proceeds on sale of 60,000 shares of Northgate Exploration Limited;

(c) Northgate Exploration Limited, Irish Base Metals Limited, and Gortdrum Mines Limited have severally guaranteed payment of principal and interest on the first mortgage bonds.

In consideration for the guarantee by Northgate Exploration Limited and Irish Base Metals Limited, and the provision of certain management and technical services, the company issued 250,000 shares of its capital stock at $1 per share to Northgate and granted an option to Northgate to purchase a further 150,000 shares at $4 per share exercisable on or before December 1, 1972.

3. Costs to Complete Development Program

Costs to be incurred after December 31, 1966, to bring the Tipperary mining property into production are estimated to amount to approximately $3,600,000. The amount of $323,796 held by the trustee at December 31, 1966, and the amount available on the remaining issue of up to U.S. $4,500,000 first mortgage bonds are more than adequate to meet the estimated costs to complete the development program.

4. Employees' Stock Options

Pursuant to an option given to an employee in 1964, 8,000 shares of the company's capital stock were issued in 1966 for $2,400. At December 31, 1966, there were 16,000 shares under option to an employee at $2.75 per share expiring in 1968.

5. Sale of Concentrate and Loan

A contract has been made for the sale of the copper concentrates produced from the Tipperary Mine for a term of 10 years and with the copper price based upon the prevailing price for copper on the London Metal Exchange.

An agreement has also been made under which a loan is to be made to the subsidiary company of the amount by which the aggregate receipts on sale of copper concentrate are less than they would have been on the basis of a fixed price for copper of U.S. 35¢ per pound, with a maximum loan of £1,000,000.

GORTDRUM MINES (IRELAND) LIMITED

Registered Office
162 Clontarf Road, Dublin 3, Ireland

Mine Office
Tipperary, County Tipperary, Ireland

OFFICERS

Patrick J. Hughes	Chairman of the Board
S. P. Boland	Secretary
William Fredenburg	General Manager

DIRECTORS

G. Warren Armstrong	Gortdrum Mines Limited, Toronto, Canada
Dr. D. R. Derry	Duncan R. Derry Limited, Toronto, Canada
R. E. Fasken	Gortdrum Mines Limited, Toronto, Canada
M. Gilroy	Gortdrum Mines Limited, Toronto, Canada
J. A. Harquail	Fort Reliance Minerals Limited Toronto, Canada
P. J. Hughes	Gortdrum Mines Limited, Toronto, Canada
Dr. W. F. James	James, Buffam & Cooper, Toronto, Canada
M. McCarthy	Tara Exploration and Development Company Limited, Dublin, Ireland
J. K. McCausland	Wood Gundy Securities Limited, Toronto, Canada
W. A. Philp	The Royal Bank of Ireland Limited, Dublin, Ireland
G. T. Smith	Gortdrum Mines Limited, Toronto, Canada
G. H. White	The British Metal Corporation Limited, London, England
H. S. White	The Toronto-Dominion Bank, London, England

SUBSTITUTE DIRECTORS

P. J. Lenihan	Athlone, Ireland
M. V. OBrien	Dublin, Ireland
J. V. McParland	Newry, Northern Ireland

Printed in Canad

from:
Edward Parker Public Relations,
159 Bay St., Toronto - 363-1385

on behalf of:

GORTDRUM MINES LIMITED,
Suite 1905, 7 King Street E.,
Toronto, Canada

RELEASE ON RECEIPT
Tuesday, June 7, 1966

Production is scheduled to start in mid-1967 at the Tipperary, Ireland, copper silver property of Gortdrum Mines Limited, President Patrick J. Hughes states in the annual report released today.

Financing for the $6 million project is being arranged and sales agreements undertaken with a European smelter. Concentrates are to be paid for on basis of London Metal Exchange quotations.

Initial ore will be from an open pit to feed the 1500-tons-per-day concentrator. Two zones have been established, containing approximately 4.2 million ton of drill-indicated reserves averaging 1.19% copper and .0.75 oz, silver per ton.

The report notes that further drilling carried out in 1966 has indicated mineralization outside the pit area, to the west and the north. Detailed work on these added ore possibilities beyond the pit area is being deferred for future planned recovery. As a result of these drill indications, however, the waste dump and tailings disposal sites have been re-located to the south and off strike of the main ore zone.

The company, which will operate the mine through a wholly-owned subsidiary, Gortdrum Mines (Ireland) Limited, plans to have mining carried out under contract, although actual planning and development of the open pit will be controlled by Gortdrum.

more.....

Included in the construction project is a storage and shiploading facility at the ocean port of Limerick, about 35 miles from the mine site. The mine and mill location is in County Tipperary, a few miles north of the town of Tipperary.

The report states that metallurgical test work has indicated a recovery of 91.5% of the copper and 92.8% of the silver can be expected, with a concentrate being produced assaying 34.28% copper and 19.95 oz. per ton of silver. Further refinement of the treatment process could increase copper content to 38%-40%.

At the present time, site preparation for the concentrator complex is under way. Stripping of the overburden from the open pit area started last month.

Site of the Gortdrum mine is on the main 'Gortdrum Block' in a nine-square-mile area held under mining lease. In addition, the company has prospecting licenses covering a total of 83.5 square miles in counties Cork, Galway, Limerick and Tipperary. This includes ground held adjacent to the Gortdrum Block.

Preliminary exploration has been carried out in six areas, including two where licenses are held jointly by Gortdrum Mines and associated companies. Follow-up work planned for 1966 includes additional diamond drilling on zinc prospect in the Ferbane area, 25 miles northeast of the Tynagh mine of Irish Base Metals Limited, also preliminary drilling on a major fault in the Curlew area where two licenses are held jointly with Irish Base Metals.

AR39

from: Edward Parker Public Relations
188 University Avenue, Toronto, Ontario

on behalf of:

GORTDRUM MINES LIMITED,
Suite 1905 - 7 King St. E.,
Toronto, Canada

FOR RELEASE ON RECEIPT

Wednesday, March 31, 1965

Drilling on the Tipperary property of Gortdrum Mines Limited, in Ireland, has so far extended the copper-silver ore zone over a strike length of 1,700 ft., president P. J. Hughes announced today.

Metallurgical test work is underway. Further, the company has engaged a firm of consulting engineers to commence immediately a full-scale feasibility report on the property with a view to bringing the development into production, Mr. Hughes said.

Gortdrum has altogether nine prospecting licenses in Ireland having a total area of about 80.5 square miles. Additional exploration outside the main deposit area will be conducted this summer in a program of mapping, geophysical and geochemical surveying and diamond drilling.

At the Gortdrum mine property, which lies three miles north of the town of Tipperary, the west section of the copper-silver zone has been drill-tested along strike for length of 1,200 ft. and is open to the west. Drilling is continuing to fill in and extend the zone. Average width is about 120 ft. and the depth of the zone in this section is approaching 300 ft.

Grade in this section is approximately 1% copper with 0.65 oz. silver per ton. Indications are that mining would be by open pit methods.

The east section of the copper-silver zone has been drill-tested for a length of 500 ft. and is open to the east. Drilling is continuing. A recent easterly hole in this section, No. 37, returned a core length of 100 ft. running 2.64% copper. The lower contact of the zone was at a vertical depth of 400 ft.

more....

Negotiations are proceeding satisfactorily toward the acquisition of surface rights at the Gortdrum mine. Application has been made to the Irish Government for a mining lease which would be held by the company's wholly-owned Irish subsidiary, Gortdrum Mines (Ireland) Limited.

Preliminary metallurgical testing is being carried out by the metallurgical staff of Gortdrum's associated company, Irish Base Metals Ltd. which is a wholly-owned subsidiary of Northgate Exploration Ltd., at Tynagh, county Galway. Results to date indicate that a good copper concentrate can be readily produced. Further testing will be carried out in the United States and Canada to develop plant design.

Canadian Bechtel Ltd., which has wide experience in mine and mill development and is currently designing and constructing the plant of Irish Base Metals Ltd. at Tynagh, has been engaged to prepare the feasibility report. This report will provide information necessary for senior financing arrangements to bring the Gortdrum mine into production.

Current assets are sufficient to carry out the development program to senior financing stage. At Dec. 31/64, cash assets amounted to $1.1 million. Subsequently, an underwriting and option agreement early this year added $1.2 million to the treasury. There are no outstanding options in connection with this agreement.

Capitalization of Gortdrum Mines Ltd. consists of five million common shares of which 3,570,022 are issued.

Directors of the company are: P. J. Hughes, Dr. D. R. Derry, G. W. Armstrong, R. E. Fasken, J. A. Harquail, G. T. Smith, all of Toronto; M. Gilroy, Dublin. Officers, elected this year, are: P. J. Hughes, president; Dr. D. R. Derry, vice-president; G. W. Armstrong, secretary-treasurer.

Shares of Gortdum are listed on the Toronto Stock Exchange.

GORTDRUM MINES LIMITED

ANNUAL GENERAL MEETING
January 25, 1965

REMARKS BY THE PRESIDENT

The report circulated to shareholders summarizes the progress of work on the property north of the town of Tipperary up to December 24th, 1964. Since the resumption of diamond drilling after New Year three additional holes have been finished and complete assay results received on one of these.

Holes G-30 and G-31 are both in the original, or west, zone of which the first extends the zone a further 100 feet westerly in slightly lower grade material on which assays have not yet been received. Hole G-31 was drilled under Hole G-14 and cut 85 feet of typical mineralization. This zone, which has now been drilled on a strike length of just over 1,000 feet bordered on the south by a fault, shows a grade of approximately 1% copper and 0.65 ozs. per short ton of silver but still requires considerable testing to define its shape and grade. It appears, from present evidence, to be limited to approximately 250 feet maximum depth and to be suitable for open-pit mining.

The new, or east, zone appears to be separated from the previous zone by 200 to 300 feet of sub-commercial values and starts with Hole G-20, as reported previously, which showed 1.9% copper over 31 feet core length. This appears to widen at Hole G-28 to about 90 feet true width in the next 200 feet strike length. The recently completed Hole G-29 has now further extended this zone to a total of 300 feet with an intersection of 2.26% copper over a core length of 138 feet, or a true width of over 100 feet. This zone, which remains open to the east, is now being drilled to confirm continuity in the 200-foot space between the first and second holes drilled into it and to see if it approaches surface above G-28. No silver assays have yet been received from this zone. The improved grade in copper over the original zone makes underground mining feasible if this is found to be necessary.

Steps are being taken to incorporate an Irish company which will be wholly owned by your Company, and which will apply for a mining lease from the Irish Government within the present Prospecting Licence areas. Negotiations on the acquisition of surface rights are in progress and an agreement has been signed in regard to the ground covering the presently-known mineralization.

Duncan R. Derry
President

DRD/pf

GORTDRUM
MINES LIMITED

SEMI-ANNUAL REPORT

FOR THE SIX MONTHS ENDED JUNE 30

1 9 6 7

GORTDRUM MINES LIMITED
7 KING STREET EAST — TORONTO 1, CANADA

To the Shareholders:

Your Directors are pleased to present the consolidated financial statements of the company and its wholly owned subsidiary, Gortdrum Mines (Ireland) Limited, for the six months ended June 30, 1967.

Commencement of the tune-up of the 1,500 ton capacity concentrator at the company's copper-silver mine in County Tipperary, Ireland, was on July 28, 1967. The concentrate storage and ship loading facility at Limerick was also completed on schedule.

The mine and concentrator were brought into initial production within the estimate of capital costs for this project. During this tune-up period, certain mechanical problems have recently been encountered. These have primarily occurred in the grinding section of the plant and may require modifications or replacement of certain equipment.

The mine will go into production with ore reserves estimated at 4,191,000 tons containing an average of 1.2% copper and 0.75 ounce of silver per ton. The scheduled rate of operation is for the treatment of 525,000 tons of ore annually to produce 16,000 tons of concentrate per year containing 35% copper and approximately 20 ounces of silver per ton. The initial concentrate product moderately exceeded these estimates.

On the basis of pre-production estimates, the contained metal in the concentrates from this annual projected rate of operation would average approximately

The conveyor of the crushing plant delivering crushed ore for treatment in the concentrator.

The crushing plant of the Gortdrum Mine, County Tipperary, Ireland.

11.2 million pounds of copper and 320,000 ounces of silver.

As previously noted, a long term contract was signed with Norddeutsche Affinerie of Hamburg, West Germany, covering the purchase of all copper concentrates. The prices to be paid for the concentrate will be based on London Metal Exchange quotations for copper and the prevailing London price for silver at the time of settlement. It is noted that silver prices are now substantially above those prevailing at the time when production financing was arranged.

Under the provisions of the April 1967 Budget of the Republic of Ireland, the former exemption from corporate income taxes for the initial four years of production and at half rates for the succeeding four year period, has been extended to a 20 year period. This means that the profits from the mine operated by the company's wholly owned subsidiary, Gortdrum Mines

in concentrator building is partially shown at the centre left.

(Ireland) Limited, are completely exempt from all corporate income taxes for a period of 20 years from the commencement of production. It is pertinent to note that there is no withholding tax payable to the Government of Ireland in respect of any dividends paid to the parent company by its subsidiary.

The company continues active in outside exploration in respect to the various prospecting licences held in Ireland and is also participating in the Avoca Mines project where exploration is in progress to evaluate the feasibility of re-opening this property.

On behalf of the Board of Directors

Pat. J. Hughes.

August 25, 1967

President

GORTDRUM MINES LIMITED

Consolidated Statement of Exploration, Development, and Administrative Expenditures Deferred (Unaudited)

Six Months Ended June 30, 1967

	Deferred at Jan. 1, 1967	Expenditures Jan. 1 to June 30, 1967	Deferred at June 30, 1967
Drilling	$ 526,898	$ 18,263	$ 545,161
Assaying and laboratory services	95,457	9,792	105,249
Removal of overburden and pit development	186,672	432,741	619,413
Salaries, wages and other exploration and development costs	326,813	71,583	398,396
Mine office expenses and general expenses at the property	69,831	76,794	146,625
Administrative and general expense	219,133	64,414	283,547
Interest on bonds and standby fee	105,903	177,384	283,287
	1,530,707	850,971	2,381,678
Deduct interest earned	85,335	17,641	102,976
Expenditures deferred (net)	$1,445,372	$ 833,330	$2,278,702

Consolidated Statement of Source and Application of Funds (Unaudited)

Six Months Ended June 30, 1967

(with comparative figures for 1966)

	1967	1966
Source of Funds:		
Proceeds from sale of U.S. $3,000,000 first mortgage bonds	$3,225,807	$ —
Proceeds from issue of common shares	16,000	—
	3,241,807	NIL
Application of Funds:		
Construction and acquisition of buildings, machinery and equipment	1,381,384	108,626
Exploration and administrative expenditures (net)	833,330	490,452
Investment in shares of other mining companies	6,900	—
Advance for exploration	10,000	—
	2,231,614	599,078
Increase (Decrease) in funds held	$1,010,193	$ (599,078)

Funds held consist of current assets and funds held by trustee, less current liabilities.

Nov. 29, 1967

F. COULTER DEACON
JOHN S. DEACON
J. REG. FINDLEY
DONALD M. DEACON
ROBERT D. TELFER
CHARLES N. POWER
JOHN W. HETHERINGTON
DONALD A. JEWITT
JOHN C. MOORHOUSE
HAROLD J. KNIGHT
ROBERT C. STONE
ARTHUR J. THOMAS

J. DEACON & COMPANY
LIMITED
Business Established 1897
Members The Toronto Stock Exchange

DEACON FINDLEY COYNE
LIMITED
Members Investment Dealers' Association of Canada
Government, Municipal and Corporation Bonds

CABLE
"DEACON" TORONTO
TELEX 02-2240

181 BAY STREET · TORONTO 1 CANADA · EMpire 2-4492

GORTDRUM MINES LIMITED

Capitalization

8% First Mortgage Bonds U.S.	$ 5,000,000.
Common $1 par	3,836,222.

NOTE - Northgate Explorations holds 1,150,000 shares or 30%

The Company, through Gortdrum Mines (Ireland) Ltd., is the beneficial holder of 9 prospecting licenses in the Republic or Ireland, covering an area of some 80.5 square miles in the Counties of Galway, Limerick and Tipperary. Ore reserves in the Tipperary property were initially estimated at 4,191,000 tons open pit with an average grade of 1.2% copper and 0.75 oz. of silver per ton. Production commenced July 28, 1967 with a 1,500 tons per day mill. During the initial tune-up period, certain mechanical problems were encountered primarily in the grinding section and may require modifications, or replacement of certain equipment, cost is estimated at about $1 million.

At designed mill rate estimated mine life is approximately 8 years. Further successful exploration could extent this by some two to three years. Mill capacity could be increased from 1,500 tons to about 2,000 tons per day without encountering major problems.

Gortdrum has a long term contract with Norddeustche Affinerie of Hamburg, West Germany, covering the purchase of all copper concentrates produced for a term of 10 years, or the life of the mine, whichever is shorter. Price paid is based on London Metal Exchange quotations for copper and silver. Settlement will be in U.S. dollars. Under an agreement with The British Metal Corporation Ltd., the Company's sales agent, Gortdrum is assured of receiving at least 35¢ U.S. per lb. of copper. Due to current trends in copper prices and recent wage settlements it is unlikely that copper prices will decline significantly below 40¢ U.S. Current L.M.E. forward price is equal to 61.3¢ per lb.

The property is open pit with its associated low operating costs. Government royalties are payable on net profits after allowing for all write offs and costs, except interest, and are based on a sliding scale commencing with 4% on the first $1,050,000, increasing 1% on each next $1,050,000 to a maximum of 9%. This is not expected to be a significant cost factor. All costs, except interest on debt, are payable in ₤ Sterling which due to recent devaluation should lower expenses.

Continued/..2

Under current laws of the Republic of Ireland the Company is exempt from all corporate income taxes for a period of 20 years from commencement of production. There is no withholding tax payable to the Government of Ireland for any dividends paid to the parent company by its subsidiary.

While operations are still in their initial tune-up stage and cost can only be estimated it is interesting to note the effect of varying prices of copper based on expected ore grade and mill head rate for 1968 and 1969. This is assuming a mill head grade of 1% copper for 1968 and 1.1% for 1969. Silver is estimated at 0.7 oz. for each 1% of copper. Recent operating experience indicates that these results could well be achieved.

Silver $2.00														
Copper	40¢		45¢		50¢		55¢		60¢		65¢		70¢	
	1968	1969	1968	1969	1968	1969	1968	1969	1968	1969	1968	1969	1968	1969
Cash Flow/ Share	28¢	32¢	34¢	44¢	54¢	65¢	65¢	78¢	77¢	90¢	88¢	$1.03	$1.00	$1.15

As the grade of ore to be treated subsequently to 1969 is expected to increase with depth, peaking at 1.63% copper, the initial estimate of grade appears to be valid, if somewhat conservative. Dilution is expected to be about 5%. While preproduction objective of 92% recovery could well be achieved the recently achieved 90% appears to be more realistic. Based on these assumptions the attached estimated illustrates the effect of varying prices for copper on total cash flow available to common shareholders.

From these estimates it appears probable that the debt will be retired within two years at which time a moderate dividend policy will likely be established.

At current market of $3.90 the shares are selling 5.1 times estimated 1968 cash flow of 77¢ (based on copper at 60¢ per lb.) and 45.5% discount from fair value, $7.16 per share.

Source: Annual Reports
Financial Post
Northern Miner
Discussions with Management

T. Zys
November 29, 1967

GORTDRUM MINES LIMITED

Estimated Cash Flow at Varying Price of Copper

Mill Rate 1,500 tons/day

Silver 2.00/oz.

	Per/Ton	Assuming Dilution 5% Recovery 90%	35¢	40¢	45¢	50¢	55¢	60¢	65¢	70¢
Silver	1.2 oz.	1.0 oz.	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Copper	24 lbs.	20.5 lbs.	7.175	8.20	9.225	10.25	11.275	12.30	13.325	14.35
Total Smelter Return			9.175	10.20	11.225	12.25	13.275	14.30	15.325	16.35
Operating Cost (Including Royalty and Administration)			3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
Operating Profit/Ton			5.425	6.45	7.475	8.50	9.525	10.55	11.575	12.60
Cash Flow Total/Share			4.12	5.25	6.37	7.49	8.61	9.74	10.86	11.98
Current Value/Share assuming 10% risk 5% reinvested/year			2.36	3.65	4.49	5.38	6.27	7.16	8.04	8.94

J.T.J.Z.
November 29, 1967.

GORTDRUM MINES LIMITED

Suite 1905, 7 King Street E.

Toronto 1, Canada

May 31, 1966.

To the Shareholders:

The Annual and a General Meeting of Shareholders of the Company is to be held on Monday the 27th day of June, 1966. As you will see from the annexed notice of meeting the shareholders will be asked to ratify and confirm an agreement which has been entered into between the Company and Northgate Exploration Limited.

As explained in more detail in the annexed Information Circular, the Company's wholly owned Irish subsidiary has made arrangements for the issue and sale of up to $6,500,000 (U.S.) principal amount of 8% First Mortgage Bonds to finance the development to production of its copper-silver ore body in County Tipperary, Ireland. The terms of these arrangements require such Bonds to be guaranteed by Northgate Exploration Limited and by its wholly owned subsidiary Irish Base Metals Limited. The agreement which the shareholders are being asked to confirm provides for the giving by Northgate and Irish Base Metals of such guarantees, and in addition, for the provision by such companies of management and technical services until such time as the ore body is brought into production. In consideration therefor the Company has agreed to issue Northgate 250,000 shares of its capital stock and to grant Northgate an option to purchase a further 150,000 shares at a price of $4.00 per share.

In view of existing conditions in the world copper market, your directors are of the opinion that it is most desirable to proceed with the development of the ore body in Ireland as soon as reasonably possible. With the financing that has been arranged it is expected that the property can be brought into production in July of 1967. Taking into consideration all factors involved, including the cost under present market conditions of obtaining financing from alternative sources, your directors feel that the overall financing arrangement is reasonable and that its acceptance is in the best interests of your Company. Your directors also feel that the terms of the agreement with Northgate, which is an integral part of the financing arrangement, are fair and equitable to both companies and recommend the same to you for approval.

Forms of proxy are enclosed. If you are unable to attend the meeting it would be appreciated if you would sign and return one of these forms in the envelope which is provided for that purpose.

On behalf of the Board,

P. J. Hughes,

President.

GORTDRUM MINES LIMITED

NOTICE OF ANNUAL AND GENERAL MEETING OF SHAREHOLDERS

TAKE NOTICE that the Annual and a General Meeting of the Shareholders of GORTDRUM MINES LIMITED (hereinafter called the "Company") will be held at the HUNTING ROOM, KING EDWARD SHERATON HOTEL, 37 KING STREET EAST, TORONTO, ONTARIO, on MONDAY, the 27TH DAY OF JUNE, 1966, at 11:00 o'clock in the forenoon, Toronto time, for the following purposes:

(a) to receive and consider the Report of Directors and the Consolidated Balance Sheet, supporting financial statements and Auditors' Report thereon for the year ended December 31, 1965;

(b) to elect Directors;

(c) to appoint Auditors and authorize the Directors to fix their remuneration;

(d) to consider and, if approved, to confirm with or without variation a resolution passed by the Directors of the Company on the 31st day of May, 1966, increasing the number of Directors of the Company from 7 to 9 and providing that 5 Directors shall constitute a quorum for the transaction of business;

(e) to consider and, if thought fit, to ratify and confirm a certain agreement dated the 31st day of May, 1966 between the Company and Northgate Exploration Limited, particulars of which are given in the annexed Information Circular, and to authorize the Directors and/or officers of the Company to do all acts and things which they may deem necessary or desirable to give effect to and to carry out all provisions of the said agreement; and

(f) to transact such further and other business as may properly come before the Meeting or any adjournment thereof.

As indicated on page 1 of the annexed Information Circular certain Directors of the Company are interested in the agreement referred to in paragraph (e) above in that they are directors and/or officers and/or shareholders of Northgate Exploration Limited.

If you do not intend to be present at the meeting, would you kindly complete and return your proxy. A form of proxy is enclosed appointing P. J. Hughes, President, or failing him, D. R. Derry, Vice-President, or failing him, G. W. Armstrong, Secretary. It is the intention of the persons named in this form of proxy to vote in favour of the confirmation of the resolution referred to in paragraph (d) and in favour of the ratification and confirmation of the agreement referred to in paragraph (e). Should you wish to appoint some other person as your proxy you may use the other form of proxy enclosed on which you should fill in the name of the person you desire to appoint.

DATED this 31st day of May, 1966.

By Order of the Board,

G. W. ARMSTRONG,

Secretary.

NORTHGATE EXPLORATION LIMITED

Suite 1905, 7 King Street East,

Toronto 1, Canada.

May 31, 1966.

To the Shareholders:

The Annual and a General Meeting of Shareholders of the Company is to be held on Tuesday the 28th day of June, 1966. As you will see from the annexed notice of meeting the shareholders will be asked to ratify and confirm an agreement which has been entered into between the Company and Gortdrum Mines Limited and to confirm a resolution passed by the Directors authorizing an application for supplementary letters patent increasing the capital of the Company by the creation of an additional 1,000,000 shares of the par value of $1.00 each.

The agreement which the shareholders are being asked to confirm provides for the giving by the Company, and by its wholly owned subsidiary Irish Base Metals Limited, of guarantees of up to $6,500,000 (U.S.) principal amount of 8% First Mortgage Bonds to be issued by Gortdrum Mines (Ireland) Limited, a wholly owned subsidiary of Gortdrum Mines Limited, to finance the development to production of the copper-silver ore body of that company in County Tipperary, Ireland, all as explained in more detail in the annexed Information Circular. The agreement also calls for the provision by the Company and Irish Base Metals Limited of management and technical services. In consideration therefor, Gortdrum Mines Limited has agreed to issue to the Company 250,000 shares of its capital stock and to grant to the Company an option to purchase a further 150,000 shares at a price of $4.00 per share.

with selling

As a result of entering into this agreement, the Company will increase its present share investment in Gortdrum Mines Limited and will become the largest single shareholder of that company. Through this investment it will have a major interest in a proven copper-silver ore body in Ireland which will have been financed to production.

The terms of the guarantees are such that the Company and Irish Base Metals Limited can only be called upon to make the annual payments of principal and interest on the Bonds as they fall due in the years 1968 to 1972. Under certain arrangements which have been made by Gortdrum Mines (Ireland) Limited as described in the annexed Information Circular, that company should derive sufficient funds from its operations and from loans which it is to receive to enable it to meet these payments unless unforseen contingencies arise. Your directors feel that, taking into consideration all relevant factors, the terms of the agreement with Gortdrum Mines Limited are fair and equitable to both companies and recommend the same to you for your approval.

The Company has no present plans to issue the additional shares resulting from the proposed increase of its capital. The existence of these shares will enable the Company, if necessary, to issue stock options to attract experienced technical personnel and will provide an additional source of financing for the expansion and diversification of its operations.

Forms of proxy are enclosed. If you are unable to attend the meeting it would be appreciated if you would sign and return one of these forms in the envelope which is provided for that purpose.

On behalf of the Board,

P. J. Hughes,

President.

NORTHGATE EXPLORATION LIMITED

NOTICE OF ANNUAL AND GENERAL MEETING OF SHAREHOLDERS

TAKE NOTICE that the Annual and a General Meeting of the Shareholders of NORTHGATE EXPLORATION LIMITED (hereinafter called the "Company") will be held in the HUNTING ROOM, KING EDWARD SHERATON HOTEL, 37 KING STREET EAST, TORONTO, ONTARIO, on TUESDAY, the 28TH DAY OF JUNE, 1966, at the hour of 11 o'clock in the forenoon (Toronto Time) for the following purposes:

(a) to receive and consider the Report of Directors, the Consolidated Balance Sheet and supporting Financial Statements of the Company and the Auditors' Report thereon for the year ended December 31st, 1965;

(b) to elect Directors to fill the vacancies caused by the expiry of the term of office of three Directors of the Company;

(c) to appoint Auditors and authorize the Directors to fix their remuneration;

(d) to consider and, if approved, to confirm with or without variation a resolution passed by the Directors of the Company on the 31st day of May, 1966, authorizing an application to the Lieutenant Governor of the Province of Ontario for the issue of Supplementary Letters Patent increasing the authorized capital of the Company from $5,000,000 to $6,000,000 by the creation of an additional 1,000,000 shares with a par value of $1.00 each ranking on a parity with the existing shares of the Company;

(e) to consider and, if thought fit, to ratify and confirm a certain agreement dated the 31st day of May, 1966 between the Company and Gortdrum Mines Limited particulars of which are given in the annexed "Information Circular", and to authorize the Directors and/or officers of the Company to do all acts and things which they may deem necessary or desirable to give effect to and to carry out all provisions of the said agreement; and

(f) to transact such further and other business as may properly come before the Meeting or any adjournment thereof.

The Directors whose term of office has expired and who are eligible for re-election for a term of three years, under the provisions of the Supplementary Letters Patent and By-Laws of the Company in that behalf, are D. R. Derry, J. K. McCausland and G. M. Wilson.

As indicated on page 1 of the annexed Information Circular certain Directors of the Company are interested in the agreement referred to in paragraph (e) above in that they are Directors and/or officers and/or shareholders of Gortdrum Mines Limited.

If you do not intend to be present at the Meeting, would you kindly complete and return your proxy. A form of proxy is enclosed appointing P. J. Hughes, President, or failing him, R. E. Fasken, Executive Vice-President, or failing him, G. W. Armstrong, Secretary. It is the intention of the persons named in this form of proxy to vote in favour of the confirmation of the resolution referred to in paragraph (d) and in favour of the ratification and confirmation of the agreement referred to in paragraph (e). Should you wish to appoint some other person as your proxy you may use the other form of proxy enclosed on which you should fill in the name of the person you desire to appoint.

DATED this 31st day of May, 1966.

By Order of the Board,

G. W. ARMSTRONG,

Secretary.

INFORMATION CIRCULAR

On May 31, 1966 Northgate Exploration Limited ("Northgate") and Gortdrum Mines Limited ("Gortdrum") entered into an agreement (the "Agreement") which provides in effect that:

(a) Northgate will guarantee, and will cause its wholly owned Irish subsidiary, Irish Base Metals Limited ("Irish Base Metals") to guarantee the payment of the principal of and interest on the 8% First Mortgage Bonds to be issued and sold by Gortdrum Mines (Ireland) Limited ("Gortdrum Ireland"), a wholly owned Irish subsidiary of Gortdrum, to finance the costs of the development of its mining property in County Tipperary, Ireland;

(b) Northgate will provide, and will cause Irish Base Metals to provide, Gortdrum and Gortdrum Ireland, with management and technical services until the development of such mining property shall have been completed and such property brought into production, including making available to Gortdrum and Gortdrum Ireland, without cost, the services of the Vice-President of Operations of Northgate and Irish Base Metals who will be appointed to the same office in Gortdrum and Gortdrum Ireland;

(c) in consideration of Northgate giving and causing Irish Base Metals to give such guarantees and such management and technical services, Gortdrum will issue to Northgate as fully paid and non-assessable, 250,000 shares of the par value of $1.00 each of its capital stock and will grant to Northgate an option, exercisable in whole or in part at any time or times on or before December 1, 1972, to purchase a further 150,000 such shares at a price of $4.00 per share.

The rights and obligations of the parties under the Agreement are conditional upon (i) the Agreement being confirmed by the shareholders of Gortdrum and Northgate at meetings called for the purpose of considering the same, (ii) the acceptance by The Toronto Stock Exchange of a filing statement of Gortdrum in respect of the issuance of the shares and the granting of the option referred to in paragraph (c) above, (iii) the issuance of all necessary consents to Irish Base Metals by the Central Bank of Ireland to permit it to give its guarantee of such Bonds and to make any payments under such guarantee in U.S. dollars and (iv) the entering into by Gortdrum Ireland of a contract with Norddeutsche Affinerie providing for the sale of the copper concentrates to be produced from the mine and an agreement with The British Metal Corporation Limited providing for the making of certain loans to the Gortdrum Ireland, all as more particularly referred to hereunder.

The Agreement has been considered and approved by the respective boards of directors of both Northgate and Gortdrum. The following table indicates the nature of the interest of the directors of Northgate and Gortdrum in the two companies.

	Northgate			Gortdrum		
	Director	Officer	Shareholder	Director	Officer	Shareholder
G. Warren Armstrong	X	X	X	X	X	X
Duncan R. Derry	X		X	X	X	X
Robert E. Fasken	X	X	X	X		X
Matthew J. Gilroy	X	X	X	X		X
James A. Harquail			X	X		X
Patrick J. Hughes	X	X	X	X	X	X
William F. James	X		X			X
John K. McCausland	X		X			X
George T. Smith	X		X	X		X
George M. Wilson	X		X			

At May 31, 1966, Northgate was the holder of 459,764 shares in the capital stock of Gortdrum.

Particulars of the mining property of Gortdrum Ireland, the development program to be carried out to bring such property into production, the arrangements made for the sale of the concentrates and the making of certain loans in connection therewith, the estimated cash flow from the mine, and the proposed plan to provide the financing for such development program are given hereunder.

Mining Property and Development Program

The mining property of Gortdrum Ireland is located in County Tipperary, Ireland, some 3 miles north of the Town of Tipperary and about 25 miles east of the ocean port of Limerick. The property consists of a single block of ground covering an area of 5,744 statute acres the mineral rights in which are being leased to Gortdrum Ireland under the provisions of the Minerals Development Act. The lease will be for a term of 21 years and will provide for the payment of an annual royalty to the State based on the operating profits of Gortdrum Ireland from its mining operations, such royalty varying from 4% on the first £350,000 of operating profits to a maximum of 10% thereof in excess of £1,750,000, subject to a minimum payment of £2,500 in each year. Gortdrum Ireland has acquired the surface rights to 476 statute acres of the lands subject to this lease, which include the known ore body and an adequate area to provide for the development of the mine and the construction of plant and other facilities.

In addition Gortdrum Ireland and Gortdrum hold prospecting licences on properties adjoining the lands subject to the State Mining Lease as well as in other areas on which only preliminary exploration has been carried out. It is planned that the exploration of these properties will continue with existing funds of Gortdrum.

Exploration of the mining property to date has primarily consisted of geochemical and geophysical surveys and some 42,000 feet of diamond drilling. This drilling was mainly concentrated over a strike length of 2,100 feet along cross sections at 100 foot intervals. A limited amount of surface trenching has been carried out across five sections of the ore zone. The ore zone indicated by this diamond drilling is apparently divided into two zones. The east zone has a length of 900 feet and is wedge shaped varying from a maximum horizontal width of 125 feet near the surface to a minimum width of 20 feet at depth, with a maximum depth of some 550 feet below the surface. The west zone extends for a length of 1130 feet, is generally rectangular in shape, and has a maximum depth of 350 feet.

The total ore reserves in both ore zones as estimated by Messrs. James, Buffam & Cooper, Consulting Geologists, Toronto, are 4,191,000 tons containing 1.19% copper and 0.75 oz. of silver per ton. Metallurgical test work has been carried out at three different laboratories on samples of varying grades of ore obtained from the diamond drill cores in order to determine the grinding and flotation characteristics of the ore and to develop a flow sheet and data for plant design. This test work indicated that a recovery of 91.5% of the copper and 92.8% of the silver can be expected with a concentrate being produced assaying 34.28% copper and 19.95 oz. per ton of silver. Such tests also demonstrated that the copper content of the concentrate could be up-graded to approximately 38% to 40% copper by additional cleaning.

Canadian Bechtel Limited has completed an engineering study together with an assessment of the capital costs, operating costs and feasibility of bringing the property into production as an open pit mine with plant facilities designed to treat 1500 tons of ore per day.

Gortdrum Ireland has awarded to Bechtel Overseas Corporation a contract for the engineering, design and construction of the crushing and milling plant and the procurement of necessary equipment. Gortdrum Ireland has also entered into a contract for the stripping of the open pit and the mining and hauling of ore from the open pit to the crusher building. Preliminary site preparation for the construction program and stripping of the ore body has commenced and it is expected that the plant start up date should be on or about July 1st, 1967.

The development program to be carried out to bring the property into production will involve stripping of overburden from the open pit, removal of waste rock and preparation of the pit for mining, construction of a primary crushing plant building, open ore storage area, concentrator building in which will be located all the grinding, flotation, filtering and drying equipment, as well as machine shop, warehouse, concentrate storage and loading facilities. Storage and ship loading facilities will be erected at the Limerick Dock. Plant services such as power, which will be furnished by the Electricity Supply Board of Ireland, process water, which will be obtained by pumping from an adjoining river into an open reservoir located on the property, and a tailings disposal area will also be provided. A combined general office and assay laboratory building will be constructed and housing for mine staff personnel will be purchased in the City of Limerick.

The capital costs of this program as estimated by Canadian Bechtel Limited are as follows:

	$ Canadian
General and Yard Facilities	$ 428,200
Primary Crushing Facility	620,700
Ore Storage and Reclaim	115,700
Concentrating and Drying Facilities	1,501,800
Concentrate Handling	35,100
Limerick Dock Facilities	72,500
Electricity Supply Board Costs	90,600
Mobile and Miscellaneous Equipment	88,900
Preproduction and Tailings Disposal	800,000
Engineering, Estimating and Procurement	320,000
Contingency and Escalation	280,000
Initial Inventory	77,600
Working Capital	300,000
Interest During Construction	220,000
Owners' Cost During Construction	202,500
Placement Fee	225,000
Expenses of Issue	107,250
Standby Fee	54,400
Total Costs	$5,540,250

Sale of Concentrates and Loans

Gortdrum Ireland has negotiated a contract with Norddeutsche Affinerie of Hamburg, West Germany, under which Norddeutsche Affinerie will agree to purchase all copper concentrates produced from the mine for a term of 10 years or the life of the mine, whichever is the shorter. The price for such concentrates, which will contain a payable content of silver, will be based upon the prevailing price for copper on the London Metal Exchange and the prevailing London price for fine silver and will be payable in U.S. dollars. Gortdrum Ireland has appointed The British Metal Corporation Limited ("British Metals") as its agent to service this contract.

Gortdrum Ireland has negotiated an agreement with British Metals, under which British Metals has agreed, in effect, to lend Gortdrum Ireland in Sterling from time to time, any amount by which the aggregate payments received by Gortdrum Ireland on the sale of all concentrates are less than the payments which would have been received on the basis of a fixed copper price of $.35 (U.S.) per pound, up to a maximum of £1,000,000. These loans will bear interest at a rate 1½% in excess of the prevailing Bank of England Rate, subject to a minimum rate of 6% per annum and will be repayable in U.S. dollars on December 1, 1974. So long as any First Mortgage Bonds of Gortdrum Ireland are outstanding Gortdrum Ireland will apply to the repayment of such loans any amount by which the aggregate payments received on the sale of all concentrates exceed the payments which would have been received on the basis of such fixed price. After the retirement of such Bonds, Gortdrum Ireland will apply the full amount of its net cash flow from operations to such repayment. Gortdrum Ireland, in turn, has agreed to pay British Metals 5% of the amount by which the payment received by Gortdrum Ireland on each shipment of concentrates exceeds the payment which would have been received on the basis of such fixed price. The obligation of British Metals to make the aforesaid loans and of Gortdrum Ireland to make such payments is to continue for a period of 5 years from the date of the first shipment of concentrates or until all Bonds of Gortdrum Ireland have been retired, whichever is the earlier.

Under these arrangements, Gortdrum Ireland will be assured of receiving during the period referred to above, on the sale of its concentrates and through loans from British Metals, a total sum equal to that which would be received if the London Metal Exchange price for copper were $.35 (U.S.) per pound during the period.

Cash Flow

Messrs. James, Buffam & Cooper, Consulting Geologists, Toronto, have made three estimates of the cash flow which will be realized by Gortdrum Ireland during the period from July 1, 1967 when the mine is assumed to commence production until August 31, 1975. The prices for concentrates used in these

estimates are based on the terms of the proposed sales contract with Norddeutsche Affinerie, on an assumed silver price of $1.39 per ounce (being the current market price) and assumed copper prices of $.35, $.45 and $.55 (U.S.) per pound. The price of copper on the London Metal Exchange on May 31, 1966 was $.76 (U.S.) per pound.

In preparing these estimates, Messrs. James, Buffam & Cooper have also assumed, among other things, that at the date of commencement of production $6,000,000 Canadian principal amount of First Mortgage Bonds will be outstanding, that 571,300 tons of ore will be treated during the first 14 months of production and 525,000 tons during each 12 month period thereafter, that the average ore grade during the first 14 months will be 0.92% Cu. increasing to 1.63% Cu. in the period ending August 31, 1974 with an average grade over the total period of 1.20% Cu., that recoveries and grades will be as stated above, that operating costs will be $3.50 per ton of ore milled and total selling, trucking, loading, shipping, unloading and insurance costs will be $9.30 per ton of concentrates, and that no income or corporation taxes will be payable during the first 4 years of production and only half the prevailing rate (now 50%) thereafter, being the present position under Irish tax laws.

These estimates indicate that, after payment of all operating and other expenses, including interest payments, the following amounts will be available at the dates indicated below for the retirement of outstanding indebtedness of Gortdrum Ireland.

Period Ending	Funds available for debt retirement on the basis of a price of $1.39 per oz. for silver and the following prices per pound of copper		
	35¢ (U.S.)	45¢ (U.S.)	55¢ (U.S.)
August 31			
1968	$ 697,700	$ 1,543,000	$ 2,362,900
1969	856,600	1,760,300	2,635,000
1970	1,253,000	2,313,200	3,332,900
1971	1,555,900	2,829,500	3,717,600
1972	1,566,400	3,116,600	3,216,100
1973	2,124,900	3,016,100	3,880,100
1974	2,693,600	3,577,100	4,538,500
1975	1,063,100	1,371,500	1,838,500
	$11,811,200	$19,527,300	$25,521,600

Financing Program

Arrangements

Gortdrum carried on discussions with its fiscal agents, Wood Gundy Securities Limited and Equitable Securities Canada Limited over the last several months with a view to financing the development program to be undertaken by Gortdrum Ireland.

Consideration was given to the sale of First Mortgage Bonds of Gortdrum Ireland in Canada, but this plan was not thought feasible in view of the present shortage of funds in the Canadian market available for investment in relatively short term corporate securities, the high interest rate which would have to be paid to compensate most Canadian institutional investors for the 35% tax withheld at source from interest payments under Irish tax laws, and the large equity bonus of Gortdrum shares which would have to be attached to the Bonds to make them saleable under present market conditions.

Consideration was also given to arranging financing in the United Kingdom, where in view of the tax convention between the United Kingdom and Ireland, there would be no problem of tax withheld at source on payments of interest. After considerable negotiation a Canadian chartered bank submitted a proposal to Gortdrum on behalf of Midland and International Banks Limited of London, England, under which Midland and International Banks Limited would purchase up to $6,500,000 (U.S.) of 8% First Mortgage Bonds of Gortdrum Ireland having the attributes and characteristics set out hereunder, subject to the principal and interest of such Bonds being guaranteed by Gortdrum, Northgate and Irish Base Metals. This proposal has been accepted subject to the conditions outlined on page 1 of this circular. For its services in negotiating this financing Gortdrum will pay such Canadian chartered bank a placement fee of $210,000 (U.S.).

Gortdrum Ireland will enter into an agreement with Midland and International Banks Limited providing for the purchase and sale of such Bonds. Such agreement will provide that, subject to certain conditions, Midland and International Banks Limited will purchase Bonds from time to time, at par, up to a maximum of $6,500,000 (U.S.) as and when Gortdrum Ireland requires funds to meet costs incurred after April 1, 1966 in connection with the development program and in meeting administrative and

operating costs, including costs of the financing, and to provide necessary working capital. Gortdrum Ireland will agree to pay Midland and International Banks Limited a standby fee at the rate of 1% per annum on the Bonds which remain to be purchased from time to time, such charge to accrue from April 1, 1966.

On the sale of the Bonds Gortdrum Ireland will derive up to $6,500,000 (U.S.), being more than ample to meet the estimated costs of the development program in the amount of $5,674,250 (Can.). In addition, Gortdrum has agreed to lend Gortdrum Ireland a further sum not exceeding the lesser of $500,000 or the proceeds received by Gortdrum on the sale of 60,000 shares in the capital stock of Northgate now owned by Gortdrum if and to the extent that Gortdrum Ireland requires further funds to complete the development program.

Negotiations have taken place between Gortdrum and Northgate to settle the terms on which Northgate and Irish Base Metals will guarantee the Bonds and provide management and technical services. As a result of these negotiations the Agreement was settled between the two companies. Taking into consideration all factors involved, including the overall cost to Gortdrum Ireland of obtaining alternative financing from other sources and the value of the experience of Northgate and Irish Base Metals in mine construction in Ireland, the directors of both companies feel that the terms of the Agreement are fair and equitable and recommend the same to the shareholders of Gortdrum and Northgate for approval.

Terms of First Mortgage Bonds

The 8% First Mortgage Bonds (the "Bonds") of Gortdrum Ireland will be issued under and secured by a Deed of Trust and Mortgage (the "Trust Deed") to be dated as of June 1, 1966 and made between Gortdrum Ireland and The Royal Bank of Ireland Limited, as trustee. The Bonds will be dated their date of issue and will mature on December 1, 1972.

The Bonds will be secured under the Trust Deed by a first fixed and specific mortgage, pledge and charge of and on the mining properties, plant and equipment of Gortdrum Ireland, on the sales contract with Norddeutsche Affinerie and the agreement with British Metals referred to above, and on the moneys and securities from time to time on deposit with the Trustee and by a first floating charge on all other property and assets of Gortdrum Ireland.

The Trust Deed will provide that all proceeds from the sale of the Bonds are to be paid to the Trustee, to be withdrawn from time to time on and subject to certain conditions, to the extent of costs incurred by Gortdrum Ireland after April 1, 1966 in connection with the development program and on account of administrative and operating expenses, including financing costs, and to provide necessary working capital.

The Trust Deed will provide in effect that the net cash flow derived from the operations of Gortdrum Ireland plus the amount of any loans from British Metals, less any required repayments of such loans, will be applied to the retirement of Bonds, and that, in any event, notwithstanding the amount of such net cash flow Gortdrum Ireland will have retired the following principal amounts of Bonds on or before the following dates: December 1, 1968 — $700,000; December 1, 1969 — $1,550,000; December 1, 1970 — $2,775,000; and December 1, 1971 — $4,275,000. The Bonds will be subject to redemption pursuant to these provisions at the principal amount thereof plus accrued interest.

In addition to the Bonds which must be redeemed at par under the preceding paragraph, additional Bonds will be redeemable at the option of Gortdrum Ireland, on or after December 1, 1969, at the following percentages of the principal amount thereof redeemed:

if redeemed on or before December 1, 1970	103%
if redeemed on or before December 1, 1971	102%
if redeemed before December 1, 1972	101%

together in each case with interest accrued to the date fixed for redemption.

The Trust Deed will contain certain covenants of Gortdrum Ireland, including covenants precluding or limiting payments of dividends, retirements of capital stock and repayments of indebtedness to Gortdrum until the Bonds are retired and a covenant to complete the development program and bring the mine into commercial production prior to December 1, 1967.

Terms of Guarantees

The guarantees of Gortdrum, Northgate and Irish Base Metals will be effected under agreements dated as of June 1, 1966 and made between those companies and The Royal Bank of Ireland Limited, as Trustee for the Bondholders.

The guarantee of Gortdrum will be an unconditional guarantee of the principal of and interest on the Bonds and will be secured by a mortgage, pledge and charge in favour of the Trustee of all shares owned by Gortdrum in the capital of Gortdrum Ireland.

The agreements of guarantee of Northgate and Irish Base Metals will provide for the guarantee by such companies of the payment of interest on the Bonds, of the making of the minimum retirements of the Bonds referred to above, and of the payment of the principal and interest of the Bonds at maturity, but will expressly provide that the acceleration of the maturity of the Bonds will not accelerate the liability of such companies except in certain circumstances, relating to the insolvency of such companies, to be specified in such agreements.

The obligations of Northgate under its agreement of guarantee will be secured by a mortgage, pledge and charge in favour of the Trustee on all shares owned by Northgate in the capital stock of Irish Base Metals, subject to the existing charge on such shares to secure the outstanding secured Debentures of Northgate.

The obligations of Northgate under its agreement of guarantee will be subject and subordinate to the obligations of Northgate under the Trust Indenture providing for the issue of its secured Debentures and the obligations of Irish Base Metals under its agreement of guarantee will be similarly subject and subordinate to the obligations of Irish Base Metals under the Deed of Trust and Mortgage providing for the issue of its First Mortgage Bonds.

In the event that Gortdrum, Northgate or Irish Base Metals make payments under such agreements of guarantee their rights against Gortdrum Ireland in respect thereof will be subject to the prior rights of the Bondholders to receive payment in full of the Bonds and of British Metals to receive payment in full of its loans.

Copies of the report and estimates of Messrs. James, Buffam & Cooper and, of the Agreement between Northgate and Gortdrum, and draft copies of the Trust Deed, Agreements of Guarantee and other agreements referred to herein may be inspected at the offices of the Company, Suite 1905, 7 King Street East, Toronto 1, at any time during normal business hours up to the date of the meeting of shareholders.